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Do the Preferential Trade Agreements are Economic or Foreign Policy instruments? Evidance from Pakistan

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Abstract
Export diversification is one of the important pillars of the trade policy of developing countries. Pakistan has embarked on a geographical export diversification policy by signing preferential and free trade agreements. The gravity model is used to check whether Pakistan's policy of preferential trade has a positive impact on its export growth. The estimation results indicate an insignificant relationship between preferential trade and export growth, and therefore implies that the agreement may have international political significance but not the economic.
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1. Introduction

Diversification of exports both in terms of product and geography are key pillars of trade policies in Pakistan. Particularly after 2000, the Government of Pakistan (GOP) has focused on signing preferential trade agreements with various countries. This is a policy instrument of market diversification that seeks to enhance export growth and add to the Gross Domestic Product of a country. Most of the trade agreements were signed with the intent to provide market access to countries where Pakistan's exports remained comparatively low. In addition, Pakistan also tried to qualify for preferential market access under unilateral trade preference in the developed world. The European Union's Generalized System of Preference is one of the biggest unilateral preferential import regimes, where all the Least Developed Countries (LDCs) are given duty-free quota-free market access. There is another free market access program for low income developing countries, which is widely known as GSP-Plus arrangements of the EU. On the basis of these preferential trade regimes, the GOP manages its trade policy to get the maximum benefit from available opportunities.

After 1993 as a neoliberal economic order based on globalization and market connectivity came to the fore, a multitude of trade agreements was signed globally. The World Trade Organization has reported that during 1948-2017, 659 trade agreements were signed out of which 445 are active. Figure–A shows the trend of trade agreements during the last 70 years (1948-2017). The figure shows that from 1993–94, trade agreements were increased, being at the highest level in 2004, when it touched 100 RTAs, while in 2007 the number of RTAs was 54. Pakistan has also signed most of the trade agreements during these 3 years, while negotiations on various agreements are still to be concluded.

The European Union is the single biggest market for Pakistan's exports. During 2016, Pakistan's exports to EU member countries were 34% of the total exports. This share has been gradually increasing since 2012 when it was only 22%. The average growth rate in share was recorded as 12% during the period 2012-2016. Pakistan has signed bilateral Free Trade Agreements (FTAs)[1] with China, Malaysia and Sri Lanka. Pakistan's export share to these countries in 2015 was 7.8, 0.7 and 1.2 percent, respectively. However, since 2012, export share to these countries is gradually declining. The average growth rate in share for these three countries was -6.8 percent. The FTAs were signed with these countries in 2007. Apart from these agreements, Pakistan has also signed PTAs with Mauritius and Indonesia in 2008 and 2013, respectively. However, agreement with Mauritius was not fruitful because preferential market access to products covered under the agreement was given to all members of the WTO in 2010. Hence, the preference given to products of Pakistan origin was made available to almost all the countries of the world. Pakistan also signed a PTA with Iran in 2006, but it was not beneficial due to UN and US economic sanctions.

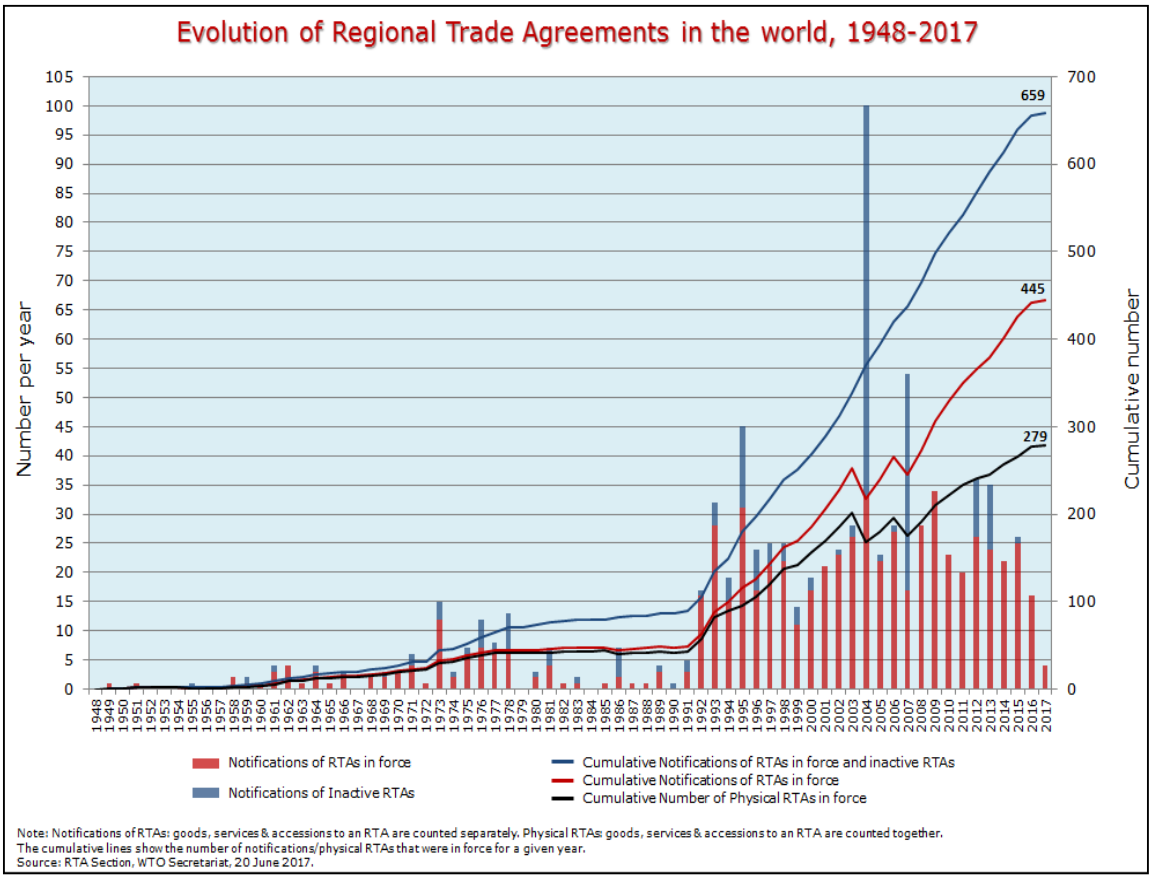
Trade agreements are purely an economic phenomenon that is designed to impact and boost a state's economic growth and development, but in reality, these agreements have a political side to them as well. Low (2004), Levy (1997), Gu and Shen (2014), Helpmen (1995) and Motta (2007) have confirmed and endorsed this reality.

The main objective of this paper is to examine the effectiveness of Pakistan's policy of geographical export diversification through bilateral free trade agreements and the European Union's unilateral import preference under the GSP plus scheme.[2]Therefore the research question of the study is whether trade agreements are political

[1] Details of the FTA/PTA are available on the website http://www.commerce.gov.pk/?page_id=9

[2] Pakistan qualified for EU's Drugs GSP scheme in 2002 under which all apparels were granted zero rated market access from Pakistan which was suspended in June 2005 because of a decision of WTO. India and some countries filed a cased against this scheme in WTO Dispute Settlement Unit (DSU) and claimed that the scheme is not in conformity of the WTO regulations of granting unilateral preference. The Current GSP+ scheme under the program of "special incentive arrangements for sustainable

or economic in nature or a combination of both. This hypothesis will be checked through empirical estimation. This analysis would be based on the semi gravity model of international trade. The results of the gravity model explain some important factors (relating to traditional gravity model variables GDP of both, Pakistan and the partner countries, exchange rate and distance) affecting exports from Pakistan. However, our major concern is with Pakistan's policy of FTAs and the EU's GSP-plus scheme.



Pakistan signed a multilateral free trade agreement with South Asian countries under the umbrella of SAARC, namely the South Asian Free Trade Area. This is the agreement where almost 90% of commodities being traded in the region are placed in the sensitive list or no concessions. As a result, the agreement has no significance in regional trade.

After this brief introduction, the remaining part of the study would be followed by a literature review, empirical model, data and methodology of the empirical findings and the conclusion.

2. Literature Review

Diversification is a very common objective of the trade policy of developing nations. International agencies such as UN trade-related organizations, the IMF and the World Bank also recommends export diversification for sustainable economic growth. The policy of preferential trade agreement is a measure of market diversification. Hamid (2010) analyzed the pattern of export diversification of Malaysia for years, 1970-2003. Her model consists of both product and market diversification index. She used the ARDL cointegration technique for estimation of the model and found a stable and long-run relationship between export growth and geographical as well as product export diversification. Nicita and Rollo (2015) examined the effect of market access condition, through multilateral trade agreement within Africa, on export diversification. They selected over 90 importing partners of 28 African countries and two different periods 2001 and 2011 and three broad categories of commodities primary, intermediate and consumer goods. The probit estimation results showed that the trade agreement positively affects the export growth of intermediate commodities.

development and good governance" started from January 2014, and Pakistan has qualified for this program after ratifying the 27 UN conventions relating to good governance, human rights and labour rights.

Mejia (2011) used a gravity model to assess the trade relations of Colombia with the European Union in respect of export diversification. The main objective of the study was to examine the effect of trade preference offered by the European Union under the GSP scheme on Colombian exports. Under the GSP scheme, Colombia was given unilateral preferential market access in the European Union member countries. The results of the estimation showed that GSP preference to Colombia has a positive impact on exports. Martincus and Gomez (2009) assessed the impact of trade agreements on export diversification. For this purpose, they chose Colombian and US trade agreements and assessed whether Colombia could diversify its exports. The authors used panel data and estimated the model with a random effect. The estimation results show a positive relationship between a trade agreement and export diversification up to a limited time period.

It is observed that the gravity model has never been used for geographical export diversification in Pakistan, but some researchers have used it for the analysis of Pakistan's trade. For example, Butt WA (2008) used a gravity model to explore Pakistan's export prospects in the world for 19 commodity groups. He used cross-section data for the year 2002-03. Gul and Yasin (2011) have examined Pakistan's trade pattern with a gravity model and used panel data of 42 countries for the year 1981-2005. Malik and Chaudhary (2012) analyzed import flow with the use of the Gravity model. Iqbal (2014) used the Gravity model to calculate the export potential in 20 European countries. However, they did not consider the EU unilateral preference for the determination of export growth.

The above review shows that the gravity model has shown a positive relationship between product export diversification and economic or export growth. However, the impact of geographical export diversification on economic growth has not been analyzed in light of the gravity model. Therefore, this study directs attention to a rather neglected dimension of trade agreements as a strategy for market diversification based on analysis that ties it with export growth.

3. The Empirical Model

The gravity model is based on the concept of Newton's law of gravitation, which says that two masses attract with a force which is directly proportional to the masses of the objects and distance of their central point. This concept is also applied in international trade, which says that trade between two countries is directly proportional to their size, which is GDP or income level, and inversely proportional to the square of the distance. Therefore, the trade would be greater between countries whose borders have a smaller distance. When this is applied to international trade, the equation becomes as follows:

$$X_{ij} = A\frac{Y_i Y_j}{D_{ij}} \quad \text{----------} \qquad 3.1$$

Where X_{ij} is the export of country *i* to *j*, Y_i and Y_j is the GDP of country *i* and *j*, D_{ij} is the distance between country *i* and *j*. The equation 3.2 says that trade would be greater between countries when the GDP of both countries is larger, while borders have a smaller distance.

Various scholars have modified and augmented the gravity model with relevant and suitable variables. Anderson and van Wincoop (2003) introduced the concept of constant elasticity of substitution and trade barriers. Rose (2004) and Correia (2008) also introduced some important variables, like exchange rate, cultural characteristics of partners, landlocked countries dummy, common border, language, island dummy, etc, to augment the model.

In addition to the traditional variables of the gravity model, with export, economy size and distance, and some dummy variables, (landlocked, island, common language), he added exchange rate with each partner country and dummy variables, EU-GSP and trade agreements in the Gravity Model. Dummy variables of Free Trade Agreements and EU's unilateral trade preference in GSP+ program will gauge the effect of Pakistan's trade policy measures on geographical export diversification. The final equation for estimating the gravity model is as follows:

$$lnEXP_{ijt} = \beta_0 + \beta_1 lnPKGDP_t + \beta_2 lnGDP_{jt} + \beta_3 lnDIST_{ij} + \beta_4 lnEXRs_{ijt} + \beta_5 BRD_{ij} + \beta_6 LL_{ij} + \beta_7 GSP_{it} + \beta_8 RTA_{jit} + \varepsilon_t \quad \text{---------- } 3.2$$

Where

EXP_{ijt}	Pakistan's export to partner countries (at current US$) at time t
PKGDP	Pakistan's GDP at (current US$) at time t
GDP_{jt}	Partner country's GDP at current US$ at time t
$DIST_{ij}$	distance between capital cities of Pakistan and partner countries in km
$EXRs_{ijt}$	bilateral exchange rate as Pakistan Rupees per partner country's currency unit
BDR_{ij}	dummy variable, with value 1 if Pakistan shares a common border
LL_{ij}	dummy variable, with value 1 if partner country is a landlocked country
GSP_{it}	dummy variable, with value 1 if EU has given GSP+ status to Pakistan during a time period t
RTA_{jit}	dummy variable, with value 1 if Pakistan has bilateral FTA with partner county in time period t

4. Data and Methodology:

For this study, the article makes use of annual data for the period 2001 to 2015 for all the variables provided in model 3.2. The data includes the top 30 countries, which account for over 85% of Pakistan's total exports. To these countries Pakistan's exports were at least US$ 200 million during the last 5 years – the list of countries is given in the Annexure. Among these 30 countries, four namely, China, Malaysia, Sri Lanka and Indonesia have signed bilateral trade agreements with Pakistan; seven are EU member countries where Pakistan has been given unilateral duty-free market access, namely, Belgium, France, Germany, Italy, Spain, the Netherlands and the UK. These 11 countries accounted for approximately 40% of Pakistan's total exports

Exports from Pakistan to partner countries were taken from UNCOMTRADE available through WITS, GDP of partner countries and Pakistan were taken from the WDI at current US$. The exchange rate of partner countries was taken from the WDI in per US$ and converted into Pakistani Rupees per partner country's local currency. The distance was taken as between the capital cities were procured from the Website of Essex University. These data are available both in kilometers and miles, but for this study, we choose kilometers. Information for dummy variables, bilateral free trade agreements with Pakistan and EU-GSP plus preference were taken from the Ministry of Commerce, Government of Pakistan and Europa.

Wooldridge (2005) suggested that the Fixed Effect (FE) or Random Effect (RE) is the most suitable technique to estimate when the number of entities is greater than the number of years. The entity for this panel data set is countries, which is 30 while, the number of years is 15 (from 2001 to 2015). However, we will first run our model to test whether the technique, Pooled OLS or FE/RE, is more appropriate. For this purpose, we run our model (equation 3.3) with random effect and check the country heterogeneity factor through the Breusch-Pagan Lagrange Multiplier test. Its null hypothesis is that the variance across entities is zero. The rejection of the null hypothesis would suggest choosing FE or RE technique for estimation. Results of estimation and test are given in Table 1:

Table 1: Breusch and Pagan Lagrangian multiplier test for random effects

lexp[countries, t] = Xb + u[countries] + e[countries, t]

Estimated results:

	Var	Sd=sqrt(Var)
LnEXP	1.2138	1.1017
E	0.1026	0.3203
u	0.6854	0.8279
Test: Var(u) = 0		
	chibar2(01) = 2022.01 Prob> chibar2 = 0.0000	

Table–1 shows the Breusch-Pagan LM test to be significant; therefore, we do not estimate the model through Pooled OLS and either the RE or the FE technique is suitable for estimation. To use the RE or FE technique, we applied the Hausman test after running the regression with both RE and FE.

Table – 2 shows the result of the Hausman test which rejects the null hypothesis as the Chi-square value is found to be significant. Therefore, we accepted the alternative hypothesis that the RE estimator is inconsistent. Fixed Effect estimation technique is, therefore, more appropriate for model 2.3

We also applied Modified Walt test to check for heteroskedasticity in the residual in our estimation of the Fixed Effect. The result of the Modified Wald test is given in table–3. The results reject the null hypothesis of no heteroskedasticity.

Table 2: Hausman test

	---- Coefficients ----			
	(b)	**(B)**	**(b-B)**	**sqrt(diag(V_b-V_B))**
	FE	**RE**	**Difference**	**S.E.**
Lgdp	1.0219	0.8720	0.1499	0.0340
Lpkgdp	0.1136	0.1155	-0.0019	0.0568
Lexrs	-0.3005	-0.0363	-0.2641	0.0965
GSP	0.0829	0.0942	-0.0113	.
RTA	0.0748	0.1417	-0.0668	.

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 31.86

Prob>chi2 = 0.0000

(V_b-V_B is not positive definite)

Table 3: Modified Wald test for groupwise heteroskedasticity in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (30) = 1313.52
Prob>chi2 = 0.0000

We then estimated the model with FE Robust standard error, which confirmed the model to be significant.

Since the FE robust estimation is found to be significant, we finally estimated equation 3.3 with FE with dummy variables. For this purpose, we estimated our model through LSDV (Least Square Dummy Variable) because FE estimation omitting some important dummy variables, while LSDV does not omit any variable and giving the same result as FE estimation. The results of the estimation are given in Table 5, which shows that 3 independent variables PKGDP, GSP and RTA are not significant while other variables like partners GDP, exchange rate, distance, landlock dummy and border dummy are found to be significant.

Table 4: Fixed Effect Regression

note: ldist omitted because of collinearity
note: LL omitted because of collinearity
note: Brd omitted because of collinearity
note: 14.year omitted because of collinearity

Fixed-effects (within) regression — Number of obs = 450
Group Variable: countries — Number of groups = 30

R-Sq: within =0.6890 — Obs per group: min = 15
Between = 0.0005 — Average = 15.0
Overall = 0.0137 — Maximum = 15

F (18, 29) = 21.26
corr(u_i, Xb) = - 0.8532 — Prob> F = 0.0000

(Std. Err. adjusted for 30 clusters in countries)

lnexp	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
lgdp	0.971703	0.1806252	5.38	0	0.602283	1.341123
lpkgdp	0.274378	0.1780044	1.54	0.134	-0.08968	0.638438
lexrs	-0.51989	0.2653184	-1.96	0.06	-1.06253	0.02275
ldist	0	(omitted)				
LL	0	(omitted)				
GSP	0.075369	0.0732027	1.03	0.312	-0.07435	0.225085
RTA	0.094897	0.1535223	0.62	0.541	-0.21909	0.408885
Brd	0	(omitted)				

Table 5: Final Result of LSDV estimation of Equation 3.3

Linear regression — Number of obs = 450
F(47, 402) = 235.50
Prob> F = 0.0000
R-squared = 0.9255
Root MSE = .31789

lexp	Coef.	Std. Err.	P>t	[95% Conf. Interval]	
lgdp	0.97170	0.091225	0.000	0.792366	1.151039
lpkgdp	0.16374	0.114275	0.153	-0.06091	0.388392
lexrs	-0.51988	0.153478	0.001	-0.82161	-0.21817
ldist	3.94794	1.562877	0.012	0.875511	7.020377
LL	8.58895	0.98017	0.000	6.66206	10.51586
GSP	0.07536	0.066817	0.260	-0.05599	0.206724
RTA	0.09489	0.093109	0.309	-0.08814	0.277937
Brd	8.73282	3.740994	0.020	1.378469	16.08718

All the coefficients have expected signs, except for the variables distance and the exchange rate. Theoretically, the sign should be negative as gravity theory suggests a negative relationship between exports and distance. But for the case of Pakistan, it is found to be positive. It is due to the fact that most of the export partners are European countries and the USA. Similar is the case with the exchange rate, which is found negative and significant, implying that a higher exchange rate would decrease export growth. This indicates that depreciation does not improve Pakistan's trade balance.

The important result concerning our study is the insignificant coefficient of dummy variables, GSP and RTA. This result indicates that there is no significant impact of the EU GSP plus scheme and bilateral Free Trade Agreement on our exports. Therefore, the policy of geographical diversification has no impact on our export growth. Also, the distance coefficient carried a negative sign. This indicates that emphasis on the growth of regional trade (for example within the South Asian region) – an important aspect of geographical export diversification – is quite ineffective as an export growth stimulant. In addition, Pakistan's GDP was also found to be insignificant.

Conclusion:

Export diversification is a common objective in developing countries' trade policy. After the establishment of the World Trade Organization in 1995, this policy instrument has become very common all over the world. Pakistan also followed the same policy instrument and signed various bilateral trade agreements. Pakistan also negotiated for unilateral preferential market access in the developed world especially the European Union.

The objective of this paper was to analyze the impact of these policy measures on Pakistan exports. For this purpose, the Gravity model was chosen for the analysis. The results show geographical export diversification variables to be insignificant. Therefore the policy option for geographical export diversification should be revised. The distance and GDP of the partner countries were significant with a positive sign showing that regional trade or trade with the countries having lower GDP do not stimulate export growth.

The insignificant results from the quantitative analysis show that preferential trade agreements have not played any role in the export growth of Pakistan; therefore, the economic agenda through preferential trade agreement has not been achieved. This implies that insisting on trade agreements is more political or a foreign policy than economics.

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Annexure

Pakistan's export to top-30 countries during 2012-2016
Value in US$ thousand

Source: ITC trademap

Importers	Exported value in 2012	Exported value in 2013	Exported value in 2014	Exported value in 2015	Exported value in 2016
World	24,613,676	25,120,883	24,722,182	22,089,018	20,533,793
Afghanistan	2,099,282	1,998,110	1,879,143	1,722,216	1,369,768
Australia	177,387	261,579	167,217	175,672	247,464
Bangladesh	696,009	718,382	687,641	700,567	656,160
Belgium	494,860	571,934	658,060	592,166	650,637
Canada	222,312	233,910	224,258	216,454	220,071
China	2,619,944	2,652,223	2,252,900	1,934,926	1,590,858
Egypt	219,518	155,650	163,881	133,662	103,526
France	331,512	405,320	430,869	360,627	372,958
Germany	988,518	1,080,984	1,215,478	1,146,261	1,186,247
Hong Kong,	416,221	408,462	328,313	241,713	149,566
India	347,994	402,747	392,214	312,284	348,102
Indonesia	236,323	144,380	138,165	140,754	127,689
Italy	521,398	641,873	767,190	618,159	667,285
Japan	191,281	184,316	193,918	182,283	171,225
Kenya	209,877	258,381	332,813	278,806	266,203
Korea, Rep.	332,446	397,266	377,892	294,748	249,694
Malaysia	233,479	204,464	233,925	186,226	151,746
Netherlands	449,170	627,521	684,740	666,949	650,798
Oman	148,056	188,796	185,317	170,506	100,227
Russia	186,192	205,510	187,633	160,925	144,774
Saudi Arabia	455,632	494,059	509,698	431,307	380,435
Singapore	59,371	86,271	245,087	209,230	67,178
South Africa	271,271	289,177	290,230	222,827	163,384
Spain	503,524	602,477	789,828	782,258	837,343

Sri Lanka	300,904	316,382	266,147	260,015	237,183
Turkey	416,037	406,962	391,075	235,444	236,873
UAE	2,872,869	1,775,143	1,324,075	899,030	784,747
UK	1,247,437	1,431,956	1,654,645	1,572,801	1,557,630
USA	3,668,507	3,746,252	3,646,509	3,661,588	3,429,743
Viet Nam	307,416	262,559	260,530	276,628	244,014
Sub-Total	21,224,747	21,153,046	20,879,391	18,787,032	17,363,528
% of grand total	86%	84%	84%	85%	85%